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Study in Latin American Universities

By CAMERON D. EBAUGH*

HIGHER EDUCATION practices in Latin American countries are in many respects quite different from those followed in the United States. That this fact is not always understood is apparent from numerous inquiries coming to the Office of Education concerning the colleges and universities in those countries. Prospective students, for example, commonly ask for the "latest catalog" of this or that university of a Latin-American country. Some want a list of the "best liberal arts colleges." Others say that they have completed one or two or more years of college study in the United States, and they ask for suggestions on the best Latin-American institution at which to complete their undergraduate course. Still others hold a degree from a college or university in the United States and would like to take the doctor of philosophy degree at a Latin-American institution. All apparently assume that the educational ladders in the Latin-American Republics have the same rungs as those in the United States.

The following points relating particularly to admission, courses, credits, and transfers may be useful to those who are interested in the practices and procedures of higher education in Latin America.

Catalogs

Latin-American universities do not issue catalogs for distribution to prospective students. With the exception of a few church, municipal, and private institutions, all Latin-American universities are national schools, so regulated by laws and statutes that no catalog is needed to advertise the offerings. From time to time, when significant changes are made in the general university law or in specific faculty or school regulations, a limited number of announcements of the changes are published, either separately or in a special section of annual report of the head of the university. This is also true of the non-national institutions.

Each faculty or school in most Latin-American universities usually has a limited supply of printed or mimeographed course requirements and regulations governing student behavior, examinations, degree(s), and fees in that faculty. A foreign applicant may receive one of these booklets or a typed copy of the principal contents on request.[1]

Admission

In each of the 20 Latin-American Republics the school system has three levels—elementary, secondary, and university. The duration of each level varies from country to country; but in all countries completion of the official (or public) secondary school, or the equivalent, and an entrance examination are required for admission to the university.

*Formerly specialist in Latin-American education, Office of Education. Dr. Ebaugh died on September 21, 1949. The article here presented is one of the last pieces he wrote.

[1] At several of the universities visited by the author, only the faculty secretary's or registrar's file copy could be located.

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Sometimes the entrance examination is given in the secondary schools; sometimes in the university. The high school diploma (bachillerato) is conferred upon successful performance in these examinations.

The secondary school programs of practically all Latin-American countries are so nearly identical that most "bachilleratos" are accepted as of practically equal value. Where they are not accepted, the foreign student is required to pass examinations in the subjects not regarded as true equivalents.

Because of the numerous subjects required in Latin-American secondary schools that are not required for high school graduation in the United States, our high school diploma is rarely considered equivalent to the "bachillerato," despite the fact that the Latin-American diploma in all but seven countries [2] represents completion of only 11 years of schooling, as compared to 12 years in our system.

In the Latin-American secondary school, all subjects are required. The first 3 or 4 years consist of subjects required of all students; in the last 1, or 2, or 3 years, depending on the total number of years in the course, the student generally has a choice of two or three programs which are differentiated according to the type of university course he plans to take—medicine, law, engineering, letters, etc.—but, again, all subjects are required. Latin-American secondary school programs commonly include at least 2 years each of natural sciences, physics, chemistry, and two foreign languages; elements of astronomy, geology, and mineralogy; philosophy; ancient and medieval history, and national and general American history and geography. Most of these subjects are taught only 2 or 3 hours a week, and laboratory and library facilities are limited; nevertheless the students acquire considerable knowledge.

For admission to the university as a regular degree student, the North American high school graduate would be required to pass examinations in the subjects of the national secondary school program which he had not successfully completed in an accredited secondary school in the United States. In addition there would be examinations in national history and geography, and written, oral, and aural tests of his command of Spanish (Portuguese, in Brazil; French, in Haiti).

If a United States applicant for university admission does not plan to work toward a Latin-American degree, he may be admitted as a special student to attend selected courses for credit to be transferred to a college or university in the United States. Previous arrangements for credit transfer should be made with the United States institution.

[2] Bolivia, Brazil, Chile, Dominican Republic, Ecuador, Paraguay, and Uruguay.

University Courses

There is no liberal arts college or college of arts and sciences in Latin-American universities. The cultural background commonly regarded as desirable and necessary for professional men and women is provided in the secondary school. The nearest approach to the American liberal arts college course is in the faculties of humanities, philosophy, letters, or education; but in these schools mathematics and the sciences are not included in the programs.

In the other university faculties and schools, the entering student starts immediately on a program of strictly prescribed, required, and highly specialized subjects leading to a professional degree. In general there are no electives and few nonprofessional subjects. The average course for the degree in any field or profession is 5 years. Medicine is at least 6 years, two or three countries requiring 7 or 8. Only rarely are students of one faculty permitted to take subjects in another.

Instruction

University teaching in Latin America is provided very largely by practicing physicians, lawyers, dentists, engineers, pharmacists, accountants, government officials, and poets, who, partly for the prestige attached to university connections, devote from 3 to 9 hours a week to lecturing. Many classes are held in the evening so that students and teachers may be gainfully employed during the working day. Instruction is in the national language and geared to the linguistic capacities of native students. Textbooks are not plentiful, and laboratory and library facilities are limited; therefore, with a few notable exceptions, instruction, even in the sciences and in engineering, is largely by lecture and demonstration, although practical exercises are receiving increased attention.

Examinations

Class attendance regulations are relatively lax and unenforced. A few professors give tests during the semester or year, but this practice is by no means common. The student's grades are determined by an examination in each subject at the end of the year's course. After passing all subjects required for a given degree, the student takes degree examinations administered by a specially appointed board

of examiners, usually numbering from three to five members. These degree examinations cover the professional studies required for the degree and the specific content and conclusions of the candidate's thesis. They may be written, oral, and practical.

Degrees

With the exception of Brazil and Peru, where the bachillerato is a university-level degree (in Brazil, 3 or 4 years of university study; in Peru, 2 years), the first degree comparable to degrees conferred in the United States is the licentiate (licenciado) which may be taken in any faculty field. In a few countries, the only degree conferred is the doctorate, in which instances this degree is equivalent to the licentiate of other countries. In the countries in which the licentiate is conferred, the doctorate is usually conferred after an additional year or so of study or research and a thesis. Schools of engineering confer the title or degree of engineer (ingeniero) in electrical, mechanical, or the industrial field; schools of agriculture, the degree or title of agricultural engineer (ingeniero agricola) or of agronomist (agronomo) and school of economics and science, the degree or title of licentiate, or of public accountant, or of doctor. The average course for all these degrees is 5 years. The degree in medicine usually requires completion of a 6-year course, plus clinical and other practical work corresponding more or less closely to the period of internship in the United States. Engineering schools sometimes provide a 3-year course for the diploma in surveying. In most Latin-American countries the degree conferred by the national university carries with it the legal right to practice the respective professions.

Equivalence of Latin American and United States Degrees

For obvious reasons it is extremely difficult if not altogether impossible, to equate Latin American with United States degrees. The Latin American degree (licentiate, doctorate, engineer, pharmacist, etc.) represents an average of 5 years of highly specialized and prescribed study in one rather narrow field, with no cultural subjects included; whereas the United States degree (B. A. or B. S.) represents only 2 years of specialized (major) study, supplemented by 2 years' study of general cultural subjects, about half of which are elective. Clearly, the Latin-American student covers more ground and penetrates more deeply into his major field in 4 to 6 years than his counterpart in the North American college or university in his 4 years. He receives much more training and more intensive training, in the theoretical aspects of his course. In contrast the North American student engages in more practical exercises and laboratory activities, is required to attend classes more regularly, and has the advantage of a much greater wealth of pertinent library materials than the Latin-American student.

In terms of quantity of postsecondary school study, however, the Latin-American degree requires an average of 25 percent more years than the North American bachelor of arts or bachelor of science. If one disregards the absence of courses in foreign language, literature, psychology, sociology, and philosophy in all university programs except those of the faculties of letters, philosophy, and education; and if he further disregards the lack of emphasis on class attendance, the theoretical character of the instruction in general, the paucity of textbooks and reference works, and the almost complete dependence on examination results for the successful completion of a course [3]—then the Latin-American licentiate may be said to correspond to the master's degree conferred in the United States.

It is not easy to disregard such factors as those listed, however. Two very different philosophies of education are involved in the question of degree equivalency. Practically everything about the two systems is different—organization, administration, financial support, equipment, instruction, examinations, aims, and traditions. Only the names of the subjects are the same. To the Latin American in general, titles and degrees are more significant and valuable than the practical professional information and skills supposedly acquired for their attainment. A relatively small proportion of Latin-American university students engage in the professions for which they prepared, those in the medical profession being noteworthy exceptions.

Juan Oropesa, distinguished Venezuelan writer and former president of the Central University of Venezuela, says that Latin-American higher education and research are characterized by a "pretentiousness and self-satisfaction" which gives them a "distinguished flavor" not found in the more standardized, objective, and impersonal North American institution.[4] Culture in Latin America, he holds, is "re-

[3] In Argentina, for example, the universities were closed down for the greater part of 2 years, yet examinations were held and students were passed and granted their diplomas.

[4] Contrasting Philosophies of Education, North and South. In *Points of View*, No. 10, September 1947, Division of Intellectual Cooperation, Pan American Union, Washington, D. C.

duced to a very thin veneer" and has the "exquisiteness of a hot house flower." Most of those who achieve it "generally affect a superficial brilliance which is of little value in meeting the heavy responsibilities which face our countries." Empty rhetoric . . . beclouds issues with high sounding words . . . ." On the other hand, Sr. Oropesa points out the "striking anti-intellectualist character of United States education, in which "concern for brilliance and intellectual refinement has never gone beyond the limits of a narrow circle with very little repercussion in the life of the nation as a whole." Summing up, Sr. Oropesa characterizes Latin-American higher education as encyclopedic, designed for an intellectual elite, and oriented toward general ideas and the "refined concept that the world of culture is indivisible," while he regards North American education as specialized, designed to promote the welfare of the masses, and aimed at efficiency.

Sr. Oropesa's considered statements of contrast may incline toward exaggeration in some respects. There are, moreover, many points of difference which he entirely disregards—unless he includes them in the general topics with which he deals. Be that as it may, the fact remains that the two educational philosophies are vastly different. The Latin American, a highly literary and verbal system; the North American, a more scientific and practical system. Rather than try to equate the degrees conferred under these two systems of higher education, therefore, it would seem more just and meaningful to look for correspondence in subject matter studied, in terms of semester hours and years.

Transfer of Credit

Because of the highly specialized, professional study programs provided in Latin-American universities, few subjects completed in North American colleges and universities can be accepted toward a Latin-American degree. At most, only the strictly "major" subjects will be regarded as equivalent to corresponding subjects in the Latin-American program. In general, courses in language, literature, psychology, sociology, philosophy, education, and the like, would be accepted only by the faculties of letters or philosophy or education. In other words, the North American college student transferring to a Latin-American university after, say, 2 or 3 years of study, will most likely lose between two-thirds and three-quarters of the credits he has earned.

An alternative may be suggested, however. The North American may arrange with his university in the United States for the transfer of credit earned in a Latin-American university as a special student (alumno libre). The amount of credit to be transferred would, of course, depend on the number of weekly hours a year or a semester each subject was taken. Some of the subjects included in the regular degree courses in Latin America may be accepted as graduate level subjects in the United States. Credit of this kind may also be transferred, at the discretion of the United States institution. In any case, the student should arrange to receive a certificate of completion in each subject taken, setting forth the name, level, and duration of the course; the weekly hours; and the final grade attained. Ordinarily, no credit is allowable in subjects in which examinations were not taken.

Latin American Summer Schools

An increasing number of Latin American universities offer special sessions of instructions in the months corresponding to our summer vacation—June, July, and August. Some of these summer offerings are conducted jointly by a Latin-American institution and a United States college or university; others are operated entirely by the Latin-American university. Several United States institutions have branch sessions of their own summer schools in a Latin-American country.

With only a few exceptions, these summer sessions are held for North American students and teachers, and United States high school graduation or the equivalent is required for admission. Most sessions are of 6 weeks' duration and permit the student to earn 6 or 8 semester hours of college credit. Courses are usually offered in subjects such as the following: Beginning, intermediate, and advanced Spanish; Spanish literature; Latin-American literature; Latin-American history; art; music; dancing; folklore; archeology; philosophy; sociology; and economics. In many instances, special attention is given to classes in Spanish conversation. Week ends are usually devoted to excursions to points of national or archeological interest.

As in the case of university study during the academic year in Latin America, it is suggested that United States students arrange with their college or university here for the transfer of credits to be earned at summer school there.

Meteorology in Colleges and Universities

By OTIS W. FREEMAN*

INTEREST in the weather and other atmospheric phenomena is widespread. In addition to satisfying the popular yearning for explanations of the passing weather, there are many practical applications of meteorology. In recent years in response to demand, many colleges and universities have begun to offer meteorology. Some courses are intended for general cultural education and the training of teachers. Others provide technical training for professional meteorologists.

Meteorology as a Subject

Meteorology is the science of the atmosphere and its phenomena, including what is ordinarily called weather and climate. It deals with the variations of heat, pressure, moisture, and constituents of the air; with storms and methods of forecasting the weather; with the winds and their effect on the climates of the earth, and with other scientific facts related to the atmosphere.

The science of meteorology is of recent development. It utilizes materials derived from the fields of physics, chemistry, mathematics, and geography. William Ferrel, an American, discovered the laws controlling the winds and developed a theory of the circulation of the winds of the globe about 150 years ago. Weather forecasts were begun soon after the Civil War and proved of value to ship captains and others affected by storms. The weather records kept by the United States Weather Bureau have formed the basis for classification of climates and other research. In the last 30 years the polar front theory was developed, and the study of storms and other weather phenomena changed from two-dimensional thinking to three-dimensional. A storm has height as well as length and width. The knowledge of upper air conditions aids in forecasting changing weather conditions and is of great value in the operation of air lines, highway departments, shipping, and many business organizations.

Meteorology as a distinct science was recognized by the organization, nearly 30 years ago, of the American Meteorological Society. Later the American Geophysical Union made meteorology one of its divisions. Both of these organizations publish bulletins containing meteorological papers. The United States Weather Bureau publishes many bulletins and papers and also a magazine, the *Monthly Weather Review*, which contains contributed articles. The Blue Hill Observatory, Milton, Mass., for many years has issued research publications on meteorology.

*Professor of geography and head of the division of physical sciences and mathematics, Eastern Washington College of Education, Cheney, Wash. Formerly specialist in geography for higher education, Office of Education.

Technical Uses of Meteorology

Technically trained meteorologists were at a premium during World War II and are in moderate demand at all times. They enter Government service, mostly with the Weather Bureau, the National Military Establishment, especially the Air Force Department, and the Civil Aeronautics Administration. Some are assigned to research projects such as experimental long-range weather forecasting, deicing of aircraft, or the production of rain by artificial means. Others become forecasters of the daily weather for airplane flights and for many activities with which the public is concerned. Private air lines employ some meteorologists. A few professional meteorologists have private consulting practices. Their clients are generally businessmen who are interested in long-range forecasts of weather which will affect the volume, demand, and price of products in selected areas and industries.

Military meteorologists deal with both present and future weather and climate. For aircraft pilots, up-to-the-minute forecasts of fog, sunshine, cloudiness, wind direction and velocity, icing conditions, and storms are necessary. Land operations are affected by fair weather, cold waves, snow, rain, and fog. Those directing invasion landings need accurate forecasts of the tides and weather, especially of storms that cause a heavy surf. The military is concerned with upper air conditions that affect guided missiles. Military operations were frequently affected by the weather during World War II. Officers and men sent for duty into the Tropics, the Arctic, deserts, or excessively rainy forests should know in advance about the climate and how to live as comfortably as possible therein.

The selection of routes to be followed by air lines requires a knowledge of the weather conditions. Likewise a knowledge of air conditions helps in de-

termining the location of an airport. Some level and otherwise suitable sites are subject to fogs, sudden gusts of wind, or other meteorological handicaps that render them unsatisactory for landing fields. The courses followed by sailing vessels are chosen to take advantage of the prevailing winds. The shortest time in days of sailing may not be the shortest route in miles. The broadcasting of information about hurricanes and the paths they are following enables ships and aircraft to avoid them.

General Values of Meteorology

Meteorology and climatology are foundation stones on which the science of geography is built. The classification of the world into geographic regions is commonly based on the different climates. Differences in climate are reflected by the natural vegetation, cultivated plants, often by the mammals and birds, and by the use of an area by man.

Meteorology and climatology have value in survey courses for general education and cultural needs. Many students desire knowledge about the changeable weather and the causes for its instability. Man's activities are so intimately related to the weather that an inquisitive person wants weather knowledge as a part of his education for life.

Meteorology can contribute information to many fields and professions. The architect needs such knowledge to design buildings properly for use in different climates. Plants can be introduced with the best chance of success into new locations which have climates similar to their original homes. The doctor needs to know about climates in relation to health. The tourist may want to learn the most delightful season of the year in the countries he plans to visit. The businessman will find it profitable to keep in close touch with weather conditions in all parts of the country because crops and the prosperity of those with whom he trades are dependent upon rainfall, temperature, and other weather factors. Politicians are sometimes blamed for hard times that in reality result from drought or other weather vagaries.

An ability to read and interpret the weather map permits one to watch a cold front in winter advance across the country with its accompanying snow blockades, icy roads, and delays in transportation and to note that at the contact of cold and warm air masses there develop severe thunderstorms, tornadoes, hail, and squallish weather generally, or that in the high pressure area of summer occur the calm hot waves that make life uncomfortable.

Instruction in Meteorology

Only a few departments of meteorology have been organized in colleges and universities. Among the institutions which have them are: Massachusetts Institute of Technology, University of California at Los Angeles, University of Washington, and the University of Chicago. California Institute of Technology for several years had a department of meteorology, but it is being discontinued.

The education of a trained meteorologist requires mathematics through the calculus, and is based upon physics. The courses include descriptive and synoptic meteorology, instruments used by meteorologists, weather analysis and forecasting, regional climatology, dynamic and physical meteorology, and thermodynamics of the atmosphere.

In 1948 in the United States 69 degrees in meteorology were granted. (See the accompanying table.)

Degrees conferred in meteorology, 1947–48.[1]

Institution	Degrees conferred		
	Bachelors'	Masters'	Doctors'
California Institute of Technology	3	25	3
University of Chicago	22	14	1
St. Louis University	1	------	------
Total	26	39	4

[1] As reported to the Office of Education.

In most colleges and universities meteorology is taught in the geography department, but in some it is offered by the physics department. Inasmuch as oceanographers use meteorology, it is sometimes offered by institutes or departments of oceanography. A survey of 1,015 institutions of higher learning disclosed that 257 offered majors or minors in geography for the bachelor's degree. More than half of the 257 colleges and universities doing most in geography offer meteorology, and 2 out of 5 offer climatology in the geography department. Nearly a third of these colleges offer both subjects. Schools, not always accredited, that give courses in aviation training customarily include meteorology in their curriculums. Some schools of agriculture and of forestry recommend that meteorology be taken as an elective.

Research in Meteorology

Considerable research is being done both in pure meteorology and in phases of the subject which are

allied to other sciences. For example, scientists in both agriculture and forestry are engaged in research in meteorology and its relationship to plant growth, conservation of ground water, erosion, fire hazards, insect infestation, snow surveying, etc. The botanist interested in ecology utilizes meteorology and climatology. The combination of geography with other sciences is resulting in new fields of science, for example, biogeography, which deals with the relation of weather and climate to the distribution of organisms.

Meteorologists are investigating the fundamental causes for variations in the weather of different years. The energy from the sun, which apparently varies during periods of sunspot activity, and the transfer of heat by ocean currents are among the subjects for research. Experimentally, and on a small scale, men have caused rainfall from clouds and have dispersed fogs. Scientists are working on a theory that weather and climate vary in cycles. It is hard to estimate the practical value and effect on human affairs that research by meteorologists may have in the future.

The General College at Boston University

By JUDSON R. BUTLER*

THE experiment in integrative general education in the General College at Boston University has now been in operation for 3 years. Inaugurated in September 1946, it was designed as a radical departure, not only from the standard liberal arts program, but also, in certain critical aspects, from those experimental courses in other colleges which have been created under similar impetus.[1]

For this experiment the General College had certain initial advantages not generally shared by others struggling with the same problem. In the first place, the faculty members were recruited from a number of college campuses on the basis of broad scholarship and general fitness for effective participation in such a venture. Secondly, they had enough confidence and enthusiasm to gamble their academic futures in an attempt to construct and implement an effective course of instruction along the lines of integrative study. Further, inasmuch as the faculty is constituted as a distinct and independent body, with its own administration in a separate college directly under the president and the trustees of the university, promotion and salary could be based on achievement in the general education program. And lastly, there was no need to convert recalcitrant colleagues, or to compromise on principles or methods to satisfy the reservations of a faculty majority, organized and entrenched along conventional departmental lines.

It soon became apparent that no amount of careful planning could foresee the exigencies of actual operation; constant revision, both administrative and academic, has naturally followed in this trial and error process. This paper, therefore, is presented merely as a preliminary report on a running experiment in general education.

Course of Instruction

The solution of the problem of instruction which is being sought in the experiment lies, it is believed, in the eradication of the artificial disassociation of subjects which, however necessary for research, has largely vitiated the value of the modern undergraduate program. In order to achieve this unity, an attempt has been made to fuse such already related subjects as comprise the social sciences, and to integrate this material with the sciences and the humanities. The principal natural sciences—physics, astronomy, chemistry, biology, geology—in turn are fused into a single 2-year course and integrated with the social sciences.

On this point the university catalog carries the following statement:

> The primary distinction of the General College program derives from the "total integration" of its program of study. . . . The aim is to unify our courses of instruction so that they constitute, in effect, one single course, in which the material drawn from all fields is synchronized and correlated at every feasible point to emphasize significant relationships and to promote meaningful generalizations, consistent knowledgeable attitudes and critical appreciation. There are no limits to the area in which such helpful relations may be established, and in this program no field or subject is out of bounds.

As the faculty labored over the preliminary course outlines and syllabi and attempted to synchronize and integrate related material from the various areas, it became evident that the individual course

*Dean of the General College, Boston University.

[1] The list of objectives of general education as stated in the report of the President's Commission on Higher Education, *Higher Education for American Democracy*, vol. I, pp. 50–58, is accepted as a standard statement of the aims and purposes of the general college.

content and structure must be tailored in part to the logical demands of the subject matter, and in part to the tastes and training of the individual faculty member.

The courses as now constituted include 2 years of human relations (psychology, sociology, and anthropology), 17 semester hours' credit; political economy (political science and economics), 9 hours' credit; 2 years in the natural sciences, 17 hours' credit; English and the humanities was set up as a 2-year course carrying 18 hours' credit; and guidance as a 1-semester course for 2 hours of credit. The aim of this general education program is the " . . . search for interrelationships wherever they naturally exist and whenever these cross references may aid in understanding and in dealing with the everyday affairs of life. It is our thesis, furthermore, that these facts, rules, scientific laws or principles are most useful when brought into relationship through the consideration of complex practical problems."

Remedial Reading and Mathematics

One of the principal problems of the college teacher is the student whose training in the tool subjects of mathematics or English has been relatively inadequate, yet who possesses outstanding ability as well as potential qualities of leadership. In the program of instruction of the General College neither of these deficiencies need be academically fatal to the gifted student. If he is willing to make an effort to overcome his particular disability under a teacher specifically trained in remedial work in English (or mathematics) he can make remarkable progress. The number involved each year has ranged from 20 to 30 percent of the freshman class. Several specialists in the English and humanities faculty devote full time to this work. One full-time and one part-time specialist in remedial mathematics have proved adequate to student needs.

The Guidance Program

One of the most ambitious ventures in this program lies in the field of educational and vocational guidance. The 2-year standard program offers an exceptional opportunity for a thorough guidance program before the choice of an advanced specialized or professional field. Six specialists in vocational guidance give their full time to this work. The program includes lectures, assigned readings, special interest group meetings with outside speakers, and, above all, personal counseling interviews. The course carries 2 hours' credit in "personal and occupational psychology." This guidance work is carefully integrated with the other subjects and provides basic information necessary to an educated choice of a profession. It, together with a thorough analysis and interpretation of each student's personality through tests, instructors' estimates, success in various phases of the course of study, work experiences, social activities, hobbies, and so forth, is designed to enable the student to make an informed choice of a field of specialized study in line with his selection of a vocational objective. During the 2 years, 75 percent of the first class either changed their vocational objectives or, having no definite plan on entrance, were enabled to make a definite choice and to plan accordingly.

One apparent result from the guidance program has been the improvement of student morale, the promotion of seriousness of purpose, and a concentration of interest and effort seldom found outside such professional programs as medicine, law, or engineering. Studies growing from the guidance program are being made and will be published as results are accumulated and evidence from "follow-up studies" becomes available.

Tests and Measurements

Early in this new program it became apparent that the character of the tests employed would play an important role in determining the nature and emphasis of student study and thought. If the students were to achieve the maximum of understanding and appreciation, relegating facts and knowledge to the subordinate role of necessary tools to logical thought and social understanding, for example, examinations would need to measure for that type of achievement.

One answer, it is believed, is the "comprehensive examination." This consists of broad questions which cut across departmental boundaries in line with the integrative emphasis of the program. Twenty to forty questions are distributed 3 to 4 weeks before final examinations. Three or four of these questions are assigned at the time of the test, and approximately an hour is allowed for each question. The grade assigned to each related course is the same for all subjects, being that achieved on the total examination. This type of examination is judged effective by the faculty and has been enthusiastically endorsed by the students themselves. The independent group study and discussion thus promoted are extremely helpful in the achievement of over-all aims.

The attainment of integrative understanding is

dependent, however, upon accurate and sound knowledge. It has been found advisable, therefore, to supplement these comprehensive examinations with objective tests. Considerable study has been given to the construction of these tests by the various departments, and one faculty expert in tests and statistics has been relieved of teaching duties—to work on the improvement and standardization of testing procedures. Objective examinations have been found valuable, not only as a check on the range and accuracy of sheer knowledge, but also as a measure of the comprehension of material from two or more broad areas.

Administrative Problems

While plans were ambitious, the means available were limited, and the pattern had to be cut to fit the cloth. The division of student time between large lecture and small discussion groups, as now arranged, is believed to be an efficient and a satisfactory one, though some adjustment of the curriculum to extend the discussion group schedule may prove desirable.

In order to provide for a number of individual services and experimental projects—guidance, remedial work, the adjustment of the problem method to an integrated program, experiments in tests and measurements, tutorial groups, conference rooms, and evaluation studies—the teacher load in credit hours had to be light. The average load, taking the entire faculty into account, is between six and seven credit hours of teaching per week. This has been achieved through a combination of large lectures with small discussion groups—limited to 20 to 25 students—for each course.

This arrangement has the advantage of allowing the chairman of each department to do the bulk of lecturing for all students, and of permitting one man to carry his course through the entire 2-year program. This is of extreme importance in the achievement of effective integration.

Another problem of prime importance for a general education program of this sort is that of providing an adequate library. It was evident from the first that there were no adequate textbooks available. Indeed, it is questionable whether there could be satisfactory texts, or whether the faculty would want to rely on this traditional prop to education. The answer seems to have been found in providing a large number of copies of certain books, in addition to the usual reference books, running up to 600 copies. The library now has nearly 60,000 volumes, all purchased within the last 3½ years. Each student must consult several hundred of these books in the course of an academic year. The library has lent as many as 6,000 volumes in a single day, or more than 4 books for each student in the college, and in a typical day the loans run from 1,500 to 3,000 volumes. During the year 1948–49, the library lent a total of 284,778 volumes—an average of 203 a student.

Conclusion

It is obviously too early in this experiment in integrative education to have obtained any conclusive over-all measure of its relative effectiveness. Four hundred and fifty members of the initial class are now in their junior year at other colleges, 49 in some 26 colleges outside the university, and the rest in other colleges within the university. Their progress will be followed with care, and it is expected that this and other studies will throw some light eventually on the value of this type of course and serve as a guide to future revisions.

A brief report, however, can be made upon one study based on the eight tests of the General Education section of the graduate record examination. In 1948, and again in 1949, in these tests the sophomore scores averaged higher than the national norms for liberal arts sophomores, and slightly exceeded the averages for liberal arts seniors. And last spring—1949—40 percent of the sophomore class equaled or exceeded the senior liberal arts norm in one or another of the advanced specialized tests—and there were some whose test scores equaled those of the top 1 percent of liberal arts seniors in their major field of concentration. The largest number took the advanced test in sociology, but there were a few who elected the subjects of psychology or literature. These results are felt to be of limited significance, since the tests do not provide an adequate measure of the interrelations which constitute the principal emphasis of this program. At best, they indicate that the students have not fallen behind liberal arts students in factual knowledge.

Evening Institute of Nations

To HELP the average citizen better understand United States policy in world affairs, Northeastern University in Boston has established an evening Institute of Nations—a special certificate program of integrated courses in economics and in geopolitical and cultural studies.

Public Administration at St. Louis University

A NEW undergraduate curriculum in public administration, designed primarily for persons employed in public service but open to any qualified man or woman, will be offered in the evening division of the College of Arts and Sciences of St. Louis University, beginning with the fall semester. The 4-year evening program leads to a certificate in public administration.

The new curriculum will include courses in government, public administration, English, psychology, international relations, public personnel administration, public speaking, organization and management, legislative and administrative relationships, public relations in government, governmental budgeting practices, supervision, and record administration.

The 4-year evening program, involving eight semesters, will be equivalent to two full years of work in the day divisions of the university. Classes will be held three evenings a week for 16 weeks each semester.

Evening Study

PACIFIC UNIVERSITY at Forest Grove, Oreg., has begun to offer regular courses of study in the evening. Seventeen members of the faculty have taken night assignments. The evening classes are intended primarily for employed persons, especially teachers who want more formal education, but are open to regularly matriculated students.

Student World Affairs Council Established

THE STUDENT WORLD AFFAIRS COUNCIL of Northern California was recently launched, with 16 college international relations groups participating. It was the culmination of exploratory work extending over a year, during which time it was determined that a nonpolitical, consultative student organization, composed of representative international relations groups would fill a real need.

The Student World Affairs Council of Northern California is designed to be a student counterpart to the World Affairs Council of Northern California, which will consult with it and assist it. The student council will not establish branches in colleges, but will provide a means of cooperation and coordination for existing campus and student international groups. The formation of the Student World Affairs Council has already stimulated plans for the establishment of international relations clubs in at least two colleges. The council will serve as a center for exchange of information and ideas, will promote campus and campus-community international activities, and will inspire individual effort and leadership in international affairs.

To advise and cooperate with the Student World Affairs Council of Northern California, the World Affairs Council of Northern California has established a Committee on Student Activities.

Entrance Requirements of British Universities

THE FOLLOWING STATEMENT from a bulletin of British Information Services indicates the entrance requirements of British universities for first-degree courses. It was issued for the guidance of overseas students.

Entrance to all the British universities is obtained only by passing an entrance examination, or by establishing a claim to exemption from the examination. Overseas students who reach standards equivalent to those required for the appropriate University entrance examination are eligible to be considered for admission.

1. Certain of the examinations of the University of London may be held in the United States. Further information regarding these may be obtained from the External Registrar, University of London, Senate House, London, W. C. 1.

2. Students at the four independent University Colleges of Exeter, Hull, Leicester, and Southampton normally read for the degrees of the University of London, and consequently the entrance qualifications are the same as those for the University of London.

3. The Scottish Universities Entrance Board has been set up by the four universities of Aberdeen, Edinburgh, Glasgow, and St. Andrews to determine entrance requirements. The board controls the basic qualifications for entry, but the universities themselves may impose further faculty tests. The address of the board is Westerlea, Kennedy Gardens, St. Andrews, Scotland. Exemption from the preliminary examination may be obtained if the candi-

date holds a certificate that entitles him to enter a regular arts or pure science course at a university or college shown on the October 1948 list approved by the Association of American Universities. The certificate must however show passes of an approved standard in (1) two recognized languages, of which English may be one; (2) either mathematics or science taken separately; and (3) history or geography or a third language or dynamics or two sciences not already offered under (2).

4. Admission to the Universities of Oxford and Cambridge follows upon admission to one of the colleges, halls, or societies within the university. Each of these bodies has its own buildings and academic staff. Formal instruction (lectures and laboratory work) is in the hands of the university; tutorials, and some lectures, are given by the colleges. Most of the colleges require applicants to pass their own as well as the university entrance examination. Five colleges and societies at Oxford and two at Cambridge are for women. The others are for men only.

(*a*) University of Cambridge. Applications for exemption from the university entrance examination will be considered from: (1) Graduates; (2) other students who can produce evidence of satisfying the entrance requirements of an institution on the last approved list of the Association of American Universities, and of having studied at school the following subjects to at least the extent shown: Latin or Greek, 4 units; a language other than English, 3 units; English, 3 units; mathematics or science, 3 units; or mathematics and science, 3 units.

(*b*) University of Oxford. Applications for exemption from the university entrance examination will be considered from: (1) Graduates; (2) other students who have satisfied the entrance requirements of a university approved for the purpose of senior status if they satisfied the examiners in two languages, of which one must have been either Latin or Greek. (A university approved for senior status is any University on the last approved list of the Association of American Universities, with such additions or deletions as are made from time to time by the Hebdomadal Council of the University of Oxford.)

5. Current catalogs and calendars giving full details of the entrance requirements of the British universities may be consulted in the library of British Information Services, New York, or back issues may be borrowed on interlibrary loan.

NEW PUBLICATIONS

Annotations by Elizabeth N. Layton
Research Assistant
Higher Education Division

Government Publications

How To Obtain

(*1*) *Cost Publications: Sent request, enclosing remittance (check or money order), to the superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.*

(*2*) *Free Publications: Request direct from the agency issuing them.*

From the Office of Education

Adult Education Activities of the Public Schools: Report of a Survey, 1947–48, by Homer Kempfer. Washington, U. S. Government Printing Office, 1949. 21 p. (Pamphlet No. 107). 15 cents.

Reveals what is now going on in adult education under public school auspices. Indicates diversity of organized activities for adults and out-of-school youth and points way to extending development of adult education programs.

Preparing Your Child For School, by Hazel F. Gabbard. Washington, U. S. Government Printing Office, 1949. 23 p. (Pamphlet No. 108). 15 cents.

Guide to help parents better understand the responsibility of the home in guiding the child's early learning experiences. Questions frequently asked by parents have been considered in preparing this guide.

State Legislation for Education of Exceptional Children, by Elise H. Martens. Washington, U. S. Government Printing Office, 1949. 61 p. 20 cents.

Presents and analyzes salient features of State legislation for the education of all types of exceptional children.

Non-Government Publications

The Aims of Education and Other Essays, by Alfred North Whitehead with introduction by Felix Frankfurter. 245 Fifth Ave., New York 16, N. Y., The New American Library of World Literature, Inc., July 1949. 166 p. (Paper) 35 cents.

A series of articles, addresses, and essays by Professor Whitehead. Some of particular interest to higher education are: Technical Education and Its Relation to Science and Literature; The Mathematical Curriculum; and Universities and Their Function.

Employee Personnel Practices in Colleges and Universities. A Survey Completed Under the Sponsorship of the College and University Personnel Association. Copies from Miss Ruth Harris, Secretary-Treasurer, College and University Personnel Association, Personnel Office, University of Illinois, Urbana, Ill. 78 p. Mimeo. (Paper) $2.

First comprehensive survey of personnel practices and policies applied to nonfaculty employees in institutions of higher learning. Analyzes information obtained from 42 colleges and universities in all parts of the country; mostly a tabulation of replies to a questionnaire.

Freedom and Renaissance, by Hardin Craig. Chapel Hill, N. C., The University of North Carolina Press, 1949. 117 p. $2.50.

Presents both (1) a warning that the "age-old inertia of the common man" has permitted inefficiency and abuses in industries schools, universities, and government, and (2) a challenge to students, teachers, and others to exert their wills and devote their talents to bringing about a renaissance.

The Growth of The Experimental Sciences: An Experiment in General Education, by James Bryant Conant. Cambridge, Mass., Harvard University Press, 1949. 67 p. Free to other universities and colleges.

Progress report on the use of the case method in teaching the principles of the tactics and strategy of science. Procedures described represent a way by which the Harvard freshman or sophomore who is not intending to take further work in science may obtain some understanding of the subject.

Modern Minds—An Anthology of Ideas, compiled by Howard Mumford Jones, Richard M. Ludwig, and Marvin B. Perry, Jr., Boston, D. C. Heath and Co., 1949. 590 p. $3.50.

A collection of essays and short stories to provide the student with controversial ideas to write about and varied models to write from. Includes a number of essays on higher education, such as The University in a Free Society (Conant), Science and Culture (Huxley), Literature and Science (Arnold), and University Days (Thurber).

National Student Unions, by Robert L. West. Madison 5, Wis. U. S. National Student Association, 1949. 80 p. Paper, 25 cents.

Brings together available information concerning the national unions of students in many parts of the world, representing the ways in which students have united to work for the solution of their common problems. Material based on questionnaire circulated among 67 national and international student organizations.

Northwest College Personnel Association—Proceedings of the Ninth Annual Meeting, February 10, 11, 12, 1949. [Glen Nygren, President, Northwest College Personnel Association, University of Washington, Seattle]. 55 p. Mimeo.

Papers and discussions on student personnel problems.

Education for Librarianship, Bernard Berelson, *ed.*, Chicago, American Library Association, 1949. 308 p. $4.

Papers and discussions presented at the Library Conference, The University of Chicago, August 16–21, 1948. The 16 papers are grouped under five heads: General Orientation and Background; Preparatory Education; Professional Education for Librarianship; Special Problems; and General Summaries.

Higher Education for American Society, John Guy Fowlkes, *ed.*, Madison, Wis., University of Wisconsin Press, 1949. 427 p. $4.

Thirty-nine papers delivered at the National Educational Conference at Madison, Wis., October 8 and 9, 1948. The principal general topics dealt with are: Appraising and Planning Higher Education; Problems in Higher Education; Goals in Higher Education; Personal Values and Higher Education; and Improving the Effectiveness of Higher Education.

The Public Service and University Education, ed. by Joseph E. McLean. Princeton, N. J., Princeton University Press, 1949. 246 p. $3.75.

Fifteen papers by as many authors on how to find, train, and retain talented persons for the public service. Applies the recent experience of government to the question of the types of personnel needed and the ways in which institutions of higher learning may meet those needs.

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